

## ABSTRACT

A method and apparatus for the conversion of a hydrocarbon-bearing feedstock to a valuable product gas such as methane ( $\text{CH}_4$ ). The feedstock can advantageously be a low-cost or negative net cost feedstock such as municipal waste or low-grade coal. The method advantageously includes the step of forming large volumes of hydrogen gas and contacting the hydrogen gas with the feedstock to produce methane. The methane can be combusted to produce electricity, such as in a combined cycle generator.

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